

ABSTRACT OF THE DISCLOSURE

In an adaptive motion direction detecting apparatus, an image input unit inputs two-dimensional pixel data of an object. A response output unit includes a plurality of response element arrays each having different time phases, and each of the response element arrays includes a plurality of response elements. Each of the response elements generates a response output for one of a plurality of local areas partly superposed thereon, and the two-dimensional pixel data is divided into the local areas. A correlation function calculating unit calculates spatial and time correlation functions between the response outputs of the response elements. A response output selecting unit selects response outputs of the response output unit for each of the local areas in accordance with the spatial and time correlation functions. A motion direction detecting unit includes a plurality of detection elements each corresponding to the response elements. Each of the detection elements detects a motion direction of the object at one of the local areas in accordance with selected response outputs therefor.

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